MISCELLANEOUS REPORT NO. 18

### COMIODITY DRAIN FROM FORESTS OF THE LAKE STATES

1950

By Arthur G. Horn, Forest Economist

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Lake States Forest Experiment Station

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### INTRODUCTION

Industries and public agencies frequently request data on forest products manufacture and timber drain. To meet these demands effectively and to provide estimates for forest surveys, the Station periodically prepares summaries such as presented here for 1950. Similar reports have been prepared each year since 1946.3

In using the data given in this report, one should keep in mind the standards and definitions used in compiling the information (see definitions).

### BASIS FOR FRODUCTION STATISTICS

By means of a sample survey of representative sammills, the Bureau of the Census collected and published regional lumber production statistics for 1950. For lack of state-wide figures, the Station applied production ratios to the regional figures to obtain a breakdown of the estimated quantity of lumber produced in Minnesota, Wisconsin, and Michigan. The Bureau of the Census state-wide lumber production statistics for 1947 with some adjustments for closure of several large mills during the interim were used to determine production ratios.

Origin by state and county of logs consumed by large mills in 1950 was also collected by the Bureau of the Census. The Station, in turn, obtained similar information from most of the medium-sized mills. From these data interstate log shipments for 1950 were determined.

State-wide lumber production estimates and interstate log shipments for 1950 were used as a basis for determining state-wide sawlog and saw-bolt production estimates.

I/ The author gratefully acknowledges the help from many owners and operators of primary wood-using establishments in the region who so kindly cooperated and furnished the basic information so necessary for this report.

<sup>2/</sup> Maintained by the U.S. Department of Agriculture, Forest Service, in cooperation with the University of Minnesota, University Farm, St. Paul 1, Minnesota.

<sup>3/</sup> Miscellaneous Report No. 7 (1946), Miscellaneous Report No. 9 (1947), Station Paper No. 20 (1948), and Miscellaneous Report No. 19 (1949).

For veneer, pulp distillation, excelsior, and cooperage industries, a complete canvass was made of all known plants early in 1951. The volume of logs and bolts received at these plants during the calendar year was used as a basis for production estimates.

For such minor items as piling, poles, hewn ties, round and split.mine material, etc., production statistics were obtained by using results of a comprehensive survey made in 1947 and comparing with reliable production indexes for 1947-50; i.e., annual underground ore production by states, pole and piling receipts of several large distributors who handle most of the regional output. Because financial limitations precluded making special surveys, estimates for fuel wood, posts, and miscellaneous items were based largely on surveys made during the latter part of World War II. Some adjustments were made on the basis of more recent findings from wholesalers and distributors.

### CONVERSION FACTORS

The Station has collected supplemental information on each product as to (1) percent of wood volume obtained from live, dead, and cull trees, and from by-product materials, and (2) proportion of volume cut from saw-timber and poletimber trees. Gross volumes of individual products were determined from information furnished by industry. For example, stock records for posts, poles, and piling showed the number of pieces by length, top, and butt diameters. Such information made possible calculations of gross volume for each product. By incorporating these findings with data collected during a previous field survey (1936-37), a set of conversion and waste factors were prepared which are closely in line with present utilization standards of wood-using industries.

#### GENERAL LIMITATIONS OF DATA

The Forest Survey accuracy goal for timber drain estimates is ±5 percent per billion cubic feet, which would permit a standard error of slightly more than 6 percent on the 1950 estimate for the Lake States. Because of the absence of an accurate survey for fuel wood for that year, the estimates presented here may not be within that limit. We feel, however, that the estimates are the best obtainable at this time and will serve a useful purpose. Figures for most products are within the proposed limits.

#### SURV Y DEFINITIONS

### Commodity Production

The gross volume of a forest product made from any class of material from commercial or noncommercial forest lands. Production has been expressed in the following standard survey units: board-foot log scale, International l/4-inch rule; cord (4x4x8 feet), rough-wood basis; number of pieces; and number of cubic feet (inside bark).

### Cutting Drain

The net volume of timber removed from growing stock on commercial forest lands through commodity production and logging waste during the year, expressed in board feet, International 1/4-inch rule, and cubic feet (i.b.).

Drain from saw-timber trees. -- The net volume (board feet, International 1/4-inch) of the log portion in softwood trees 9 inches and larger and hardwood trees 11 inches and larger, d.b.h., removed during logging operations. The cubic-foot volume shown includes both the saw-timber equivalent plus the volume in the tops of softwood trees to a 4-inch minimum.

This report differs slightly from those of 1946-1948 in that tops of hardwood saw-timber trees have not been included as drain for lack of sufficient data. Such material will be included in the future only when adequate data are available to make the calculations.

Drain from pole-timber trees. -- The net volume in cubic feet (i.b.) of pole timber removed through cutting during the year. Included in this class are softwood trees from 5.0 to 8.9 inches and hardwood trees from 5.0 to 10.9 inches d.b.h. It includes cubic-foot volume found in the tree stems to a minimum top diameter of 4 inches (i.b.).

CUTTING DRAIN ON PRIMARY GROWING STOCK

1950

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in the Lake States belts and logs veneer cutting resulting from timber drain -Net 2 Table

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# 1950 in the Lake States timber drain resulting from pulpwood cutting 3.--Net ble

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Wisconsin	1	\$ 1	1	1	1	Scc	220	0000	222	09/	1
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Red pine	1		1	1	1	sweed	-	-	1	11	1
Minnesota	1	-	1	1	1	innesc	1	1	1	1	1
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Michigan	610	9	-	$\infty$	1	ich	$\infty$	2	$\infty$	ا ري ا ت	1,5250

### - 1950 in the Lake States cutting wood fuel from resulting drain timber 4. ---Net Table

Species	No.	timber	drain by s	ize classes	Species		timber	rain by s	ize classes	
and state	Tota	9.1	Saw tbr.	Pole thre:	Tops : and state	Tot	a.1	Saw thr.	le tbr.	Top
	M bd.ft.	4	M cu.ft.	40	J.n	ŧ.	·f+	100	9-4	23
White pine	1,650	1,360	370	900	Birch	570,0	5,810	1,760	4,050	
Wisconsin	096	<u>-</u> 0	الما و	4 50	O Wisc	700			15	1 1
Michigan	480	0	110	9	Ol Michigan	55.	6		35	-
Red pine	350	O	7	200	O Ba	47	,65	$\mathbf{I}$	3	
Minnesota	140	3	30	300	_	00	45	200	5	1
Wisconsin	140	S I	30	0	O Wiscensi	1 -1	9	$(\mathbf{Z})$	42	1
Michigan	70	Si		0	-	75	9		2	1
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Spruce	063	410	100	270	0 Beech	26	97	. ()	0	
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Michigan	000	63 0	1,080 420	V r	100 Nichien	1 K		200	-1 th c-α  ω c	1 1
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## 1950 piling in the Lake States from cutting resulting timber drain 5.--Net Table

			-			Consider		Limber drai	in by size	classes	2
Species:	4	ra	by S1Ze	Class		and atate	Tota		r tbr.	Le thr.:	Tops
9	Total	Saw.	TOL: LOT	TO COI	Cin Pt.		M bd.ft.	cu.ft. M c	13	on .ft.	M cu.ft.
31	bd.it. M cu	. I L.	O TAT O TO			Birch	1 1				-
White pine	-	1	1 1	1 1	1	Minnesota	1	-	1	-	-
Minnesota	-	!!!	1	:	1	Wisconsin		-		:	-
Wisconsin	!	!!	1	1	-	Michigan	11				:
Michigan			/ VE		Or I	Rasswood	1		!		1
Red pine	310	55 55	200	1 1	27	Minne sota	-	11	1		
Minnesota	07.1		ى 10.	!	1	Wisconsin	1		11	-	1
Wisconsin	000	20	20	1	5	Michigan				-	!
Michigan	7.00		000	1	5	Elm	380	55	55	1	1
Jack pine.	140	020	200	1	2	Minnesota	1	-	1 1	!	-
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Spruce		!!	1 1	1	-	Minnescta	-	1	1	1	!
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p Minnesota	1	! !	1 1	1	1	Wisconsin	140	20	20	-	-
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Codar	1	1	!!	! !	1:	Winnesota	1	+	-	1	-
Minnesota	1			1	1	Wisconsin	15	!	1	1	-
Wisconsin	! !	1 1	:	1	1	Michigan	1	1 1	-		
MICHIERI						Miscellaneous	15	1	1	-	-
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misconini misconini	1		!	1	1	Wisconsin	15		!!	!!	!!
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Wisconsin	300	200	000	! !	r.	Wichiran	1	1	1	1	
Michigan	770		09			ATT andoing	7 030	160	145	-	15
Maple	30	2	s !	! !	1 1	Winneso ta	310		40	1	10
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Wisconsin	000	? ;	2 !	1	1	Michigan	110	25	20		5
MICHIBSH				-							

1950 Stotes the Lake in cutting WCOO frem chemical resulting drain. timber 6.--Net Table

· opioono	Wot.	timber dr	ain by siz	e classes	Species	. Net	timbor dr	ain by siz	e classes	1
order pro	Tota	S	aw thr Po	br.: Tek	ta	: Tota	13:	law tbr Po	le thr.:	Tops.
- 1	bd ft. M	cu.ft. M	cu.ft. M	t. M cu.	t.	M bd.ft.	M cu.ft. M		cu.ft. M	cu.ft.
					Birch	3.386	940	790	150	-
Walse pine	1	1	:	-	nneso	1	1	1	:	1
Wisconsin		1	1		scon	140	05	30	10	1
Michigan	1	1	-	1	Michigan	3,240	006	760	140	
Red pine	1	11	1 1			-	1	11	1	1
Minnesota	1 1	1	!	1 1	-	-			-	
Wisconsin	1	1	1	!	60	-	11	-		1
Michigan		1	11		Michigan	1	1			
Jack pine	1	1 1	11		Elm	140	40	30	10	1
Winnesota	1 1		1	1	Minnesota	!	1	!!	1	-
Wisconsin	1	1	1		SC	-	1	1	1:	-
Michigan	-	1	1		Michigan	140	40	30	10	-
Spruce		1	1		Beech	1,080	300	250	50	1
Winnesota	1	!	11	1-	00	-	1	1		-
Wisconsin	1	1			Wisconsin	1	1	1	-	-
Michigan.	1	-	!	!	Michigan	1,080	300	250	50	1
Belsam .		111		1 1		140	049	30	10	1
o Minnesota	!	!	1 1	1	Minnesets	-	1	1	1	-
Wisconsin		1	!	1	sco		1	1:	1 ,	1
Michigan	1	1	1	1	Michigan	140	40	30	10	
Tamarack	1 1		1	1-1	Aspen		1	-		-
Minnesota	-	!	!	!	inneso	-	-			1
Wisconsin	1	1	1		scens	-	!	-		-
Michigan	1	1	1	11	Michigan	1	1			-
Cedar	1 2	1		11		270	70	09	10	-
Minnesota	1	1	1	1	inneso	-	1	-	-	1
Wisconsin	1 1	1 1	!!	1 1	Wisconsin	270	102	199	101	11
Hemlock					cellan	ns				1:
Minnesota	!	1	1	;	nne	-	-	1	1	1
Wisconsin	-	-	1	-	S	1	1		1	-
Michigan	1	1	1	1	Michigan					1
Seftwood total		11	1 1		Hardwood to	tal 11,360	3,150	2,640	210	1
Minnesota	1	1	11	1 1	nneso	1		1	1 (	1
Wisconsin	1	1	1	11	isc	410	110	L	02.	!
Michigan		1	11		Michigan	10,950	0	099.2	430	!
Maple	6,350	1,760	1,480	280	pecie	11,360	3,150	2,640	510	1 1
MAIIIIESOUA	000	100	100	1 5	nneson	-10 -10	טונ	06	20	1
WISCONSIN	012	2	00	OT	ISCOUS.	4 (	4 6	L	000	
Michigan	6,080	1,690	1,440	01.2	Michigan	066,01	5,040	066,2		-

## 1,950 excelsion bolts in the Lake States frem cutting resulting timber drain . ---Net

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e clas	le thr	cu.ft.	1	1	-	1	320		6	O 件 O	Ø	i	i	i	i		i	i	1		i	1	i	) <del>7</del> 8	•	2	2 6	i	i	1	•	1	1	1	1	5,16	1	2 42	2 74	5 16		2,52	
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	Species	and s		White pine	Minne	Wisco	Michigan	Dad nir	od pine	MININ	WISC	MICH	ack p.	Minn	Wisconsin	Mich	pruce	Winne sets	Wisc	Michigan	Balsem	Minn	"ISC	Mich	emer?	Minnesota	WIISC.	naginoth	Cedar	uu T	ISC		lem Lec	מתנווו	WILDC	Mich	oftwo	ini nn	isc	lich	Meple	Minn	Wisc

1950 S. tos in the Le cutting pest fence frem timber drain resulting 8.--Not 0

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Species	d state			nnosc	ISC	Michigan	Sweed	nn sc	isc	ich gan		irnesct	fic igen	4	innesate	NOON L	ichia		ininio sc ta	isc	ichigan		incsota	scons	_	tenweo	innesc	U,	ichiga	ce lan	Innosc.	S	TOT!	dwcoct.	innoset	Richier		Minnes ta	isconsi	ichig	
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	0010 + Pr			1	•	1	280		09	1	530	0	000	-					000	i	t		170		80	3,980	830		2,490	06	•	09			-,	1000°		087		60	
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			M bd ft		1	1	057		06		C S C	630	140	36	1		1		000		1	6:0	270	230	140	08.5.9	3	1,080	05	14		06		36	70	1,630	300	27			
	cies	and state		White pine	a cocatillation are a cocatillation and a coca	MISCOLLSIA	TO TOTAL	Red pine	MINDS SC LM Transonin	TTOTOTAL Laboration	TOUTENATI	Min Eacts	, isconsin	Michigan	Spruce	innescta	isconsin	ichigan	Balsam	ZO OS PIETE I	מוניט סירו	TO ON ON OH	Minner	nisconsin	negitai	10000	,	risconsin	in thick and the second	Hom lock	Minnescta.	Misconsin	Michigan	Seftwood teta	Minnesota	Wisconsin	Michigan	Maple	Innesota	Michigan	

## 1950 States La.ko the in utility poles drain resulting from cutting 9. -- Net timber Table

ses	.: Tops	M cu.ft.	-		-	1	-	1	-	1	-	-	!!		-	-	-		-		-		1		1	1	-	-	-	1	-	1	-		-	1	-	125	75	10	0.
size class	Pole thr.	M cu.ft.	-	-	!	1		1	1	1	-	1	11		1	1	1		1	-	-	-	1	1	!	-	1	1	-	1	1	-	1	1	1	1	1	395		35	
drain by s	Saw tbr.	M cu.ft.	-	-	1	1	1	!	1	1	1	1	11	11		!	-		1	-	-	1	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	675		55	
timbor c	tal	M cu.ft.	1	1	1	-	-	1	-	-	1	1	11	11	1	1	-	1	1	1	-		1	1	1	1	-	1	1	1	1	1	1	1	1	1	-	1,195	695	100	
eN :	To.	M bd.ft.		1	!	-	-	1	1	1	-	1	11		1	1	-	1	1	1	1	-	-	1	1 1	1	-	1	1	-	1	1	1	1	1	1	-	3,300	1,920	280	
Species	and state		Birch	nnesc	Lisconsin	(0)	Mood	nneso	sconsi	chiga		inneso	Wichigan	ch	Winnescta	iscen	ichig	Oak	nneso	iscon	chiga	ne	Winnesota	isc	Michigan	cnw	080	SC	Michigan	0011	innesc	ISC	Michigan	173	innesct	iscons	iga	speci	innesc	Wisconsin	
8	Top	M cu.ft.	1	1	11	!	1	1	1	1	15		11	1	1	1	;	11	1	-	1	1	-	1		110	09	10	05	11	1	1	1	125	75	10	40	1 8	1	1	THE RESIDENCE OF THE PARTY OF T
csselo ez	ole thr.	cu.ft.	1	;	1	1	1	!	!		55	09	1 2	111	1	;	;	1	1	!	1	1 1	-	1		340	180	30	130	-	!	!	1	395	230	35	130		1	1	
rain by si	Saw tbr.:	wi cu.ft.		!	!!	1	1	1 1	1		85	08	; co	1	! 1	1	1	1	1	!	1	1	1	1	11	590	310	50	230		1	1	1	675	390		230	1	!	1	
timbor du	8.1 :.	M cu.ft.	1	1	1	1	1	1	1	1	155	14	10	113	1	1	1	1	-	1	1		1	1	-	1,040	550	06	400	1	1	1	-	1,195	0	100	0		1	1	
: Net		M bd.		1	1	1	1	1	-	1	440	410	30	1	1	1	1	-	1	!	1	1	1	1		2,860	1,510	250	1,100	1	1	-		3,300	1,920	280	1,100	-	1	-	
Species	0)		White pine	Minnesota	Wisconsin	Michigan	Red pine	Minnesota	Wisconsin	Michigan	Jack pine	Minnesota	Wisconsin	Springe	Winne seta	Wisconsin	Michigan	Balsam	Minnesota	v Wisconsin	, Michigan	Tamarack	Minnesota	"isconsin	Michigan	Cedar	Winnesota	isconsin	Michigan	Hemlock	Minnesota	wisconsin	Michigan	Softwood total	Minnesota	Wisconsin	Michigan	Maple	Winnescta	Wisconsin	

## 1950 States Lake the in cutting resulting from hewn-tie 10. -- Net timber drain 0 Table

SSSS	bro: Taps	t. M cu.ft.																								-												-				
in by size cla	w tbr. : Pole ti	cu.ft. Mcu.f.	11	1										-										!!																		
t timber dre	tal :Sa	M cu.ft. M																																								
. Ne	e : To	M bd.ft.									1			-			n	-			u			1 1							as	ಭ	n		tal		n		S	ಚ	n n	00
Species	tat			- Minnesota	scon	- Michigan	wood	nneso	CO	chiga		nnesc	cons	- Michigan	h	nneso	sconsi	- Michigan		nneso	consi	- Michigan	- Aspen	- Minnesota	- TISCOUSTI	- MIGHIERH	- Cottonwood	- Minnesota	- Nisconsin	- Michigan	- Miscellanco	- Minnesota	sconsi	- Michigan	d t	nnesc	18	chig	specie	nnesot	- Wisconsi	
Ses	r.: Top	ft. M cu.ft.	1	-		-				1	1 1 1		1					1 1	1	1	1		1	1	-		10	1	1	10		i .	1 1	1	10	1	1 1	10	1	1	1 1	
n by size cl	tbr. : Pole t	u.ft. M cu.f		-	-		11	-			-	11	-	1 1	!	1		1 1					-				10	!	11	10		1-		-	10	!!		10				
timber drai	al Saw	M cu.ft. M c		1	11	1	11	!	1 1	1		1	1		1 1		1	-		1 1	-	-		-	-	11	20	1 1														
. Net	Tota	M bd.ft.	1	1		1		!	11	1	1		1	1	2	1	1	2	1	-	1	!	5	2	!	1	55	2	1	90	10	1		10	7			65		1		
Species	and state		white nine	Winnesota	Wisconsin	Michigan	Red pine	Winnesota	Misconsin	Michigan	Jack pine	Winnesota	Wisconsin	Michigan	Spruce	Minnesota	Wisconsin	Michigan	Balsam		Wisconsin	Michigan	Tamarack	Winnesota	Wisconsin	Michigan	Cedar	Winnesota	Wisconsin	Michigan	Hemlock	Minnesota	Wisconsin	Michigan	Seftwood tota	Winnesc	Wisconsin	Michigen	Maple	Winne sota	wisconsin	18.0

1950 States Lake the in cutting timber from mine resulting drain timber 11. -- Net Table

Species	. Net	timber d	Irain by	sizo classes	2	Species	: Not	timber	drain by s	ize class	os
and state	: Tot	31	Saw tbr.	Pole thr.:	Tops	and state	Tot	al	tbr.:	ole thr	: Tops
1	M bd.ft.	M cu.ft.	M cu.ft.	M cu.ft. M			d.	M cueft.	M cu.ft. 1	M cu.ft.	M cu.ft.
White pine		10	10	11	1	Ч	2,060	490	340	156	
Minnesota	90		70	-	!	nnesot	020	10	101		-
Wisconsin	!!	!!	11	1 1	1 1	Mischigan	002	000	310	021	1 1
TATOLIEGII	000	00	000			1971	0	7 7	070	110	-
Red pine	022	20/	40	200	100	Minnesota	!!	1 1	!!	!!	!!
i coordin	000	2	04	2 1	2 !	CONT		1 1	1 1		
Michigan	11	!!	!!	11	11	Michigan	!!	11	!!	!!	!!
Jack pine	100	086		350	100		_	120	06	30	1:
Winnesota	3,270	980	530	350	100	Minnescta	160	40	30	10	1
Wisconsin	1	1 1	1	1	1	Aiscensin	40	10	10	!	
Michigan		1	1	1	1	d.	320	70	50	20	-
Spruce	20	1	1	-	1	1000	380	06	09	30	
Minnesota	1	1	1	1	1	Minnescta	1	1	!	1	1
Misconsin	1	-	1	1	1	Misconsin	1	!	!	1	-
Michigan	20	-	1	1 1		Michigan	380	06	09	30	1
balsam	1	1	1	1	1	0a.k	09	10	10		
Minnesota	1	1	1	1	1	Minnesota	!	1	!	-	
Wisconsin	1	1	1	11	-	Misconsin	20	1	!	!	1
Michigan			1	1	1	Michigan	40	10	10	-	-
Temarack	6,220		066	099	180	en	1	1		1	
innesota	3,020		480	320	000	innesc	1	1	1	1	t
scrnsın					0	scons	•	1	1	1	1 1
n sept us a	797. 2		440	290	0	ichican					
Cedar	•	0.00	0000	570	160		290	70	20	20	-
innescta.	0000	20 (	160		30	080	290	20	0 10	20	
MISCONSIN.	02.2	20 "	000	200	01	1800	1	1	1	1	11
1ch1gsn	150	1,2-0	089	40	20	nichigan	1	1			
に い の の に に に に に に に に に に に に に	1,020		160	110	30	L.n	1	1	1	1	1
Minnesota	1 0	1	1	1	1	linnssota	1 2	1	1	1	-
rsconsin	0000	1	1	1		Isconsin	1	i	1	1 1	1 1
1ch1gan		Ō,	9	0.1	30	nichigen				1	1
Softwood totel	16,150	,810	2,620	1,710	7×80	Eardwood to	10 010	-	1,670	710	
Innesota	•	42.	225	7.00	230	Innosota	580	_	100	0	-
ulsconsin		22	72	000	20	isconsin	တ		-		1 1
	7,920	انی	$\infty$	840	230	Michien	8 830	2,100	,4	630	1
e Tc	6, 700	. C.	1	80	1	speci		7,190	4,290	2, 420	780
innesota	110		20	10	1	linnosota	0	3	53		230
isconsin	340	000	090	000	1	cons	1,340	360	220	120	20
U STUDIU	062,0		050 T	450		<b>U</b>			50		250

1950 States Lake the in log cutting resulting from cooperage drain timber 12.--Net Table

Species	Net	timber dr	rain by si	ze classe	S	Species	Net	timber	Si	ze classe	es
0	Tot	1	aw thr.	tbr	Tops	and state	: Tota		:Saw tbr. :Po	ole thr.	: Tops
	M bd.ft. I	I cu.ft.	W cu.ft. M		M cu.ft.		M bd.ft. M	cu .ft.	Co	cu.ft.	M cu.ft.
White nine	1 1 1	111		111	1	Birch	1	1			
Minnesota	1	1	11	1	1		-	1	1	-	-
Wisconsin	11	1	1	1	1	Misconsin		1		-	-
Michigan	1	1	1		-	Michigan	1			-	
Red pine	11	1 1		3 1	1	Basswood	140	20	20	-	-
Minnesota	1	1	1	1		Minnesota	06	10	10	1	
Wisconsin	1	-	11	1	1	Wisconsin	90	10	10	1	
Michigan		1	1	11	1 1	Michigan	*1			-	
Jack pine		1	1	1	1	Elm	230	40	40	-	
Minnesota	1	1	!	1	1	Minnesota	230	40	40		
Misconsin	!	1		-	!	Wisconsin	!	1	;	!	!
Michigan	-	1	May 440		1	Michigan	1 1	1			
Spruce		1	1	1	!	Beech		1	-	1	
Minnesota	11	1	-		1	Minnesota	-	1	-	1	-
Wisconsin		1	1	!	-	Misconsin	-		-	-	
Michigan	1	1	!	1	1	Michigan					
Balsam	11		1	1	1 1	Oak	1,720	260	260		
H Minnesota	1	1	-	1	!	Minnesota	4	00			
Wisconsin	-	1	1	1	!	Misconsin		200	200		1-
' Michigan	1	1	1	1	1	Michigan				1	
Tamarack	1	1 1	1 1	1	1	Aspen	80	10	10	1	-
Winnssote	1	1			!	Linnesota			10	1	11
Wisconsin	1	1	1	1	1	Wisconsin		1	!	1	
Michigan	1	1				Michigan				1	1
Cedar	1	1	1 1		1	Cottonwood	220	30	30	1	1
Minnesota	!	1	1	1	1	Linnesota	220	30	30	-	
wisconsin	1	1	1	!	1	Wisconsin	-	1	1	-	
Michigan	1 1	1	1	1 1	1	Michigan				1	1
Homlock	11				1	Miscellane ous		!	1	1	-
Minnesota	1		11	1	11	Minnesota		1	1	!	1
Wisconsin	1	1	1	!	1	Misconsin	11	-		1	1
Michigan	1 1	1	11		1	Michigen			-	1	11
Softwood tota	1-1	1 1		11	1	Hardwood total	2,690	410	410	1	
Minnesota	1 1	1	1	!		Minnesota	53		200	-	1
Wisconsin	1	1	1	1 1	!	Wisconsin	3	210	210	1	
Michigan	1	1	1	1	1	Michigan				1	
Maple	300	50	50		1	All species	69,	-	410	1	
Minnesota	300	50	20	1	1	Minnesota	1,330	200	200	1 1	1
Misconsin	1	1	1	1	!	Misconsin	, 36	-	017	1	-
Michigan		1			1	Michigan		1	11	2 1	

	++010	imber d	rain or s	ize classe	S	Species	. Not	ti ber d	rein by s	ize cless	3
	0 + 0 =		_	ole thr.	Top	and state	Tot		Sam the:	Folc tbr.	Tops:
	7	14	C13 P+	cu ft	\$		Li bd.ft	4	M cu f		Cu.ft.
		010	00	05	30	irch	0	230	160	70	
in prince	180 040	1	30	30	10	innoso	780	9	3		1
	180	70	30	30	10	00	140	000	000	10	
TOP L COL	180	70	30	30	10	ichig.	200	07	77		
Red pine	320	100	50	50		swood	0000	ට ( ධ ධ		000	
winnsote	140	40	025	025	8 1		0000	200			1
isconsin	0/1	000	3 C	200	1	ichiea	000	30	20		1
ichigen	OTT	31 10			00		300	80	50	30	
Jack pinc	0000	007		74	100	innesot					
	140	) Ch	20	20	1 (	scon.	100	10	1 (	1 0	1 1
li-chien ni-chien	250	06	04	40	10	Chil	0000			000	
Shringe	170	09	30	30	1	ch	2,700	069	065	240	1
Wir nesote	70	20	10	10	1	 		•	1	1	1
T CODY C	40	20	10	10	1	iscors		1 (			-
はいっていっている。	09	20	10	10	1	high	2,700	069	450	0=2	
	O-4	170	000	70	20		0	100		30	1
1 Minnosote	180	70	30	020	10	inneso			) C	1	
disconsing 6	40	20	10	07	1	1200	י ת				
richien -	220	80	40	30	10	ichi	300	a	00	_	
To or woll	170	60	30	30		cn	- -	C- (	000		1
Line sote	70	20	10	10	1	inneso	00	a c	0 0 0 0	03.0	1 1
isconsin	05	000	01	0 (	1	TISCOUSIE THE FORT	000°T			9	•
inchigen		7	-	-1		7 117 -	2				
Coder	2,230	7.00	0000	310	000	たのか。		1 1			
inne sota	062		) (a	75	30	ממטטטר ב	1	1	1	1	1
MI SCOUS IN	0000	7 0				i chi -	1		1	1	
		٠ [ ٢٠	000		1		575	300	7.0	30	
TICH TOOL TOTAL	)   I	7 1	21	21	1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		1	1 (	-	1
i sconsin	20	20	10	CT	l	ons		() () () ()			
uijchi gin	70	C. 22				ichig		-	3	3 1	
So twood total	4.690	12.0		700	(J	dvoo	7		つ つ つ つ つ つ つ つ つ つ つ つ つ つ つ つ つ つ つ	اع را	-
innssota	1,220	6.0		W	0	inneso	30	77	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	7 -	
isconsin	1,080	380	C 8 H			ISCOUST	240	700	<u>ነ</u> ፫-	4	
Michien	2,390		- 1	7 5	0	1CUIE II	0 0	- 0	4	1 4	
510	2,820	6.0		U.J	1 1	Specia		ن ا آ		5	7 - 7
innesota	(A)	• • •	1 ()(			T COLUMN TO COLU	( (C)	. C. C ) — C ) — C		38 0960	()
ijchigan	2,460		776	722			2				

### 1950 States Lake the in rom cutting resulting drain timber net 14.--Total Table

S. C.		timber	drain by	26 C	S	Species	2	t timber	drain by s	ize cless	S
and state	Tot		tbr	Pole	ops	and state	E	しかし	Sow thr	Pol tbr	Tops
	if bd ft	4	ر ا	u ft	t F		pq E	J n	J no	u f	M cu ft
White pine	65,110	90.	,54	CO	S	ch	4 06	00	97	000	1
Winnesota	13 450	200	77	4000	0 <	inneso	0,000 m	,37	0 6	, S.	
Wisconsin	32,130	200	200	mon	098	ichign	60,250	13,650	9,840	3,810	
Red pine	56 680	48	.11	10	(0)	stood	1,11	30	19	176	
Finasots	24 730	41	.98	.35	,08	inneso	3,74	3,71	27	44	8 6
Wisconsin	23,620	97	.79	H	,04	cons	0,22	72	200	300	
Wichi en	8 330	2,09	, 34	40	35	Michigan	7,15	0.2	2/5	To	8
leck pine	68,840	,31	919	30	るな	C S.	45 20 20 20 20	7 C	38	200	1 1
320SCULT		0,00	999	707	ا ا ا	TOOR L	7.52	90	46.	09	1
chien	)	8 27	.78	02	7	ichien	1,40	22	92	5	1
Spruce	12	67	69	02	19	ch	7,73	,26	Ŋ	2	
innesote	-	6,31	68	3,95	0	inneso		1 (	1 (	1,	1
	2,370	2,00	30	(H) (J	U	Wisconsin	00,00	200	ムなり	コアント	1 1
Michill n	g, 195	3,40	44	CO	OK		0,0	0000	4,00		
Be som	ار ان ان ان ان ان ان ان ان ان ان ان ان ان	,73	(C)	5	90		2000	300	ر ا	20°C	1 1
つつないでは、ファー	4	4 C	57.0	100	- ഗ	SCOUS	100 mg	6.07	6	9,74	1
Lichigan	2 2	000	000	1,	0	ichien	0,40	£,82	6, 68	8 34.	
Temerack		5,78	, 25	,01	N.	3n	2,89	6 67	63	7,04	1
Minnosota	7	57	,30	905	7	inneso	82 c	782	376		1
isconsin	2,230		CIL	0		T SCONSING THE SCO	0,00	S S S S S S	000	10 K	1 1
Elchien.	2	CT,	0	7	-	STUDE	0,00	H   C	370	7001	
Ceder	25, 700 5, 0350	NO	(AC)	00 20 20 20 20 20 20 20 20 20 20 20 20 2	130	inneso	200	( )	410	1470 1010	1 1
wisconsin.	-	50	75.	315	<u></u>	iscons	ر ر ر ر	<u>ග</u>		OL	1
fichigan	15,600	7,23	- 7 E	Ξ Ξ	03	1ch1	2,98	28	U	27	1
Homlock	~	7.9	00	53	$\infty$		3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	900	500	0 k	
Almresot:	rJ.	1 α α	2.16	(0)	122	isco		) ()	95	で (2) (4)	<b>b</b> 1
Lichigen	53	4,77	4,62	,61	ເດ	ichi	1 58	3,11	1 80	1,22	
Softwood total	98	(3)	(2)	11,53	(U)	g.oog	45 65	, 26	ري ا ا	5,31	-
Linnesota	18	2,42	5 47	(2) (2)		i me o	12,92	66,70	900	io io io	1
Lisconsin	53	3,0	305	2,34	(D)	iscons			79 T	77,6	2 6
Lichigan	26	23	9 9	1,9	.လ (လ	ichi	82,31	76,02	3,40	5,51	
	27	0) (0	6,97	9	1	speci	() () () () () () () () () () () () () (	00,000	() () () ()	13 W	7
isconsin	רא כ	1年 (0名) (2年) (2年)	00° E75	00 C C C C C C C C C C C C C C C C C C	1 1	TESCOLSIN TESCOLSIN	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	100 C	000 000 000 000 000 000		100 C
$\circ$	0	0	200					9			

### FOREST PRODUCTS HARVESTED

IN THE LAKE STATES

1950

Species:		e cut an			Species and	Volume	cut and	destina	tion
origin:	Total	Minn.	. Wis.	Mich.	origin:	Total:	Minn.	· Wis.	Mich.
	M bd.	ft., Int	1. 1/4-	inch		M bd.f	t., Int'	L. 1/4-in	nch
W. pine	67.326	13.999	33,582	19,745	1911 m	57.067	12,029	21,524	23,514
Minn.	13,999	13,999			Minn.	12,129	12,029	100	
Wis.	33,002	MP	33,002		Wis.	20,644		20.644	
Mich.	20, 325		580	19.745	_	24, 294	des 444	780	23.514
Red pine	62.843	27,065	26,728	9,050		18,582		956	17,626
Minn.	27.065	27,065			Minn.				
Wis.	26,598		26,598		Wis.	756		756	-4
Mich.	9,180		130	9,050	Mich.	17,826		200	17,626
Jackpine	72,829	52,264	8,224	12,341	Oak	95,073	10,753	58,383	25,937
Minn.	52,264	52, 264			Minn.	11,053	10,753	300	
Wis.	8,104		3,104		Wis.	57,793		57.793	
Mich.	12,461	-	120	12,341	Mich.	26,227		290	25,937
Spruce	13,595	5,575	1,617	6,403	Aspen	145,385	52,668	60,202	32,515
Minn.	5,575	5,575		900) GM)	Minn.	51,668	51,668		
Wis.	1,527	-	1,527	1000	Wis.	61,262	1,000	59,162	1,100
Mich.	6,493	-	90	6,403	Mich.	32,455		1,040	31,415
Balsam	7.741	4,252	990	2,499	Ctnwd.	10,819	6,510	1,862	2,447
Minn.	4, 252	4,252			Minn.	6,510	6,510		
Wis.	970		970	-	Wis.	1,862	<b>Q-1,000</b>	1,862	
Mich.	2,519	4000 page	20	2,499	Mich.	2,447	the delig		2,447
Tamarack	4,166	2,469	1,342	355	Ash	17,272	3,339	7,880	6,053
Minn.	2,469	2,469	000 000		Minn.	3,339	3,339		
Wis.	1,342		1,342		Wis.	7,645	pain (mm)	7,620	25
Mich.	355	Omit 0-40	ent-ma	355	Mich.	6,258		260	6,028
Cedar	9,960	1,120	2,322	6,518	Hickory	673	-	114	559
Minn.	1,120	1,120	-	-	Minn.		(m) (m)		
Wis.	2,262		2,262	COLD (1996)	Wis.	114	-	114	
Mich.	6,578	(ma-mm)	60	6,518	Mich.	559			559
Hemlock	185,835	COM (500)	63,930	121,905		854	16	65	773
Minn.		~~~	(646) (646)	Quin 910	Minn.	16	16		
Wis.	59,600	with this	59,300	300	Wis.	65		65	and and one
Mich.	126,235		4,630	121,605		773	(SAL)		773
Softwd.					Walnut	249	18	24	207
total		106,744				3,8	18	2)ı	
Minn.		105,744			Wis.	5 <sub>1</sub> t		24	207
	133,405		133,105			207	07.0	7 7 10	207
Mich.	184,146	THE RESERVE AND PERSONS ASSESSMENT OF THE PE		178,516		3,255	219	1,149	T 001
Maple	192.423			129,877		219	219	1,149	
Minn.	2,144	- ·		050		1,149		7,1-19	1.887
Wis.	49,752		49,502			1,887			1,001
Mich.	140,527	THE RESERVE OF THE PARTY OF THE			Hardwd.	640,715	98,431	248,635	293 649
Birch	53,404					· · · · · · · · · · · · · · · · · · ·		1,500	
Minn.	2,472					98,931	1,000	226,765	1.400
Wis.	11,452		11,452	38,280		312,619			292, 249
Mich.	44,480		6,200			712,019		20.010	
Basswood				10,714	checies	1,065,010	205.175	387, 370	472.465
Minn.	9.363	3,663	700			205 675	204,175	7.500	
Wis.	16,647		700	1.		362,570			1.700
Mich.	14,649		100	エフ・ファン	Mich.	496, 765			470,765
					111011	, , , , , ,			

Table 16.--Production of logs and bolts for veneer industry in the Lake States

1950

Connaina	Vo	lume cut	and dog	+1 no +i on			Tmo	orts
Species	VO	Tune cut	त्यात (१०५	OTHER OTOH	Other	Heading	Other	
and.	Total.	liinn	Wis.	ilich.	U. S.	STOCK		Canada
origin					U. D.		U. S.	Vallaua
						Standard	M bd,	
	M bd	.ft., In	t11. 1/4	-inch rul	e	cords	Int'1 1,	/4-inch
								21
White pine	2,134	28	411	1,695				21
Minnesota	28	28	770					
Wisconsin	379		379	1/- (05			***	711
Michigan	1,727		32	-1,695			- 11	14
Maple	31,312	37	17,656	13,603	16	1,847	147	1,661
Minnesota	581	37	544					
Wisconsin	8,677		8,653	54		1,347	106	621
Michigan	22,054		8,459	13,579	16	500	41	1,040
Birch	17,523	53	10,888	6,582		80	6	11,740
Minnesota	133	53	58	22				
Wisconsin	3,931		3,878	53		80		9,918
Michigan	13,459		6,952	6,507			6	1,822
Basswood	11,093	631	8,897	1,565		4,134	372	68
Minnesota	3,269	631	2,605	33		351		
Wisconsin	4.327		4,293	34		2,904	344	34
Michigan	3.497		1,999	1,498		879	28	34
El m	11,978	198	8,307	3,434	39	2,039	325	262
Minnesota	1,376	198	1,178	~~				
Wisconsin	6.143	-	6,103	40	949 <b>1</b> 48	1,539	268	27
Michigan	4.459		1,026	3.394	39	500	57	235
Beech	6,160		777	5,383				
Minnesota		-						
Wisconsin	182		182					
Michigan	5,978		595	5,383				
Oak	3,564		2,727	717	120	50	334	326
Minnesota	336		321	15				
			2.080	271		50	198	196
Wisconsin	2,351 877		326	431	120		136	130
Michigan	THE RESERVE OF THE PARTY OF THE	190	710	<u> </u>	1,10	8.231	<u> </u>	8
Aspen	239		77			814		
Minnesota	190	190	48			7.417		
Wisconsin	48		70			19-17		g
Michigan	7 760	7.0	007	148	- E		マ	2
Ash	1,168	18	997	140	)			hus
Minnesota	144	18	23		ands draft	(http	7	2
Wisconsin	451		447	7)17		940 040	)	
Michigan	673		527	141	706	\$40 GHQ		
Walnut	391	*****	5		386	949 PP	\$100 Cap	
Minnesota	44	647gag			44	<del></del>	Civil) place	<b>~~</b>
Wisconsin	, 5	(pe) and	5		7110		Great 6000	
Michigan	342			FOR	342	<b>a</b> • •	0117	170
Other 2/	1,025	176	320	525	4	89	247	172
Minnesota	366	176	190	100 cm	-	18		170
Wisconsin	158		130	28		/1	Oli O	7/5
Michigan	501			497	4	77 1170	242	711 260
All species	56,587	1,331	51,034	33,652	570	16,470	1,434	14,260
Minnesota	6,367	1,331	4,919	, 73	44	1,183	0.01	10 077
Wisconsin	26,652		26,198	454		13,408		10,977
Michigan	53,568		19.917	33,125	526	1,879	THE RESERVE THE PERSON NAMED IN COLUMN 1	3,283
1/ Heml	ock		5\ co.	ttonwood,	sycamo	ore, and	yellow po	hrgr.

Species	•	Volume cu	it and dest	tination		: In	ports
and	Total	l Minn.	Vis.	Mich.	: Other	·Other	Foreign
origin	:		*		: U.S.	: U.S.	: Canada
		Thousand	l standard	cords, ro	ugh wood	basis	
	-1.					49	0.2
Pine	34		166	56		49	92
Minnesota	18	_	60	5		110	54
Wisconsin	9		93		<b>Quantity</b>	49	28
Michigan	. 5		13	53			10
Spruce	31		202	30		13	322
Minnesota	18	6 84	102	e-ma-us	60% cast)	7 7	25
Wisconsin	3	1	51	70	Com grad	13	226
Michigan	9		69	30			71
Balsam	31		235	42			21
Minnesota	12		85	PR 0-40		600 G100	7
Wisconsin	6		69	110	term outp	-	7 0
Michigan	12	3	81	42	404 (40)	7	18
Tamarack		1			Que delle	5	
Minnesota		1	,			7	
Wisconsin	•	440040		-		)	010 110
Michigan			~~ ~~				
Hemlock	13	1	91	40	eath ages		anti que
Minnesota	٠,		47				
Wisconsin		7	11)	40	4900 4940		
Michigan		54	<del></del>		G49 (F4)	65	435
Sfwd. total	1,11	•	694	168	****		70
Minnesota	50		247 240	)		.65	257
Wisconsin	24			165		——————————————————————————————————————	99
Michigan	37		207	109			
Birch	7	.1	10	<u>.L</u>			
Minnesota	-		5				
Wisconsin		0	)1 ()	1			- Constant
Michigan		075	707	65	7		55
Aspen	69		387 22				32
Minnesota	57		186				7
Wisconsin	19		7.70	(-	7		22
Michigan	25		1/9	27			
Misc. hdwds.	2	19		(~ )			
Minnesota		T 7	20				
Wisconsin		20	٦	27			
Michigan		28	418		7		55
Hdwd. total	1 2	54 236	22			-	32
Minnesota		49 227	212				1
Wisconsin		21 9	184		7	******	22
Michigan	2	84	7				
Slabs, etc.							
Minnesota					4112	g-re-que	
Wisconsin							
Michigan		73 486	1,119	261	7	65	490
All species	1,8	400 477	269				111
Minnesota			459			65	258
Wisconsin		68 9 56 —	<b>3</b> 91		7		121
Michigan	0	70	771				

Table 18. - Production fuel wood, chemical wood, excelsior bolts in the Lake States - 1950

Species	:		Volume cu	it 1/ :	Species	8		Volume cu	at 1/
and	:	Fuel	:Chemical	Excelsion	and	:	Fuel	:Chemical	Excelsion
origin		wood	boow	EXCOLUTION:	origin	;	wood	: wood	
		M	standard	cords			M	standard	cords
their mino		120			Birch		240	25	
White pine		15			Minnesota		70		
Minnesota		70			Wisconsin		90	1	
Wisconsin		<b>3</b> 5			Michigan		80	24	
Michigan		25			Basswood		110	ima	4
Red pine					Minneseta		60	-	
Minnesota		10			Wisconsin		25		3
Wisconsin		10			Michigan		25		i
Michigan		775			III m		320	1	
Jack pine		115			Minnesota		100		
Minnesota		50			Wisconsin		75		
Wisconsin		60	-				145	7	
Michigan		5			Michigan		40	8	
Spruce		35			Beech				
Minnesota		20			Minnesota		5		
Wisconsin		5		~	Wisconsin		35	8	
Michigan		10			Michigan		860	1	
Balsam		35			Oak				
Minnesota		25			Minnesota		175		
Wisconsin		5			Wisconsin		415	7	
Michigan	-	5			Michigan		270		60
Tamarack		205			Aspen		655		(2/)
Minnesota		155			Minnesota		295		27
Wisconsin		40			Wisconsin		160		スス
Michigan		10			Michigan		200		
Cedar		40			Ash		60		
Minnesota		10			Minnesota		15		
Wisconsin		25	<del></del>		Wisconsin		25		
Michigan		5	)		Michigan		20	-	
Hemlock		215			Miscellaneou	us	155	-	
Minnesota	•	-			Minnesota		90		
Wisconsin		145	<u> </u>	-	Wisconsin		35		
Michigan		70	<b></b>	-	Michigan		30		
Sfwd. total		790	)	-	Hdwd. total		2,860		64
Minnesota		289			Minnesota		815	_	(2/)
Wisconsin		360			Wisconsin		. 990		30
Michigan		14			Michigan		1,055		54
Maple		420	NAME AND ADDRESS OF THE OWNER, TH		All species		3,650		64
Minnesota	1	10			Minnesota		1,100		(2/)
Wisconsin		16			Wisconsin		1,350		30
	<b>L</b>	25	1		Michigan		1.200	0 61	34
Michigan	7			cneer cores		1			

1/ Excludes slabwood, vencer cores, etc. 2/ Less than 1 M cords.

### Table 19.--Production of miscellaneous piece products in the Lake States - 1950

Species : and : origin :	Piling	:Poles	Posts :	Hewn	Species : and :Pi origin :	ling:	Poles:	Posts	Hewn
	7	Phousand	pieces				Phousand	pieces	
White pine					Maple	.2		300	
Minnesota		-		-	Minnesota		640 edb)	100	
Visconsin					Wisconsin	.2		100	
Michigan					Michigan			100	
Red pine	1.8		500	MH 649	Birch		Greg (849)	250	diffi dess
Minnesota	1.0	-	400		Minnesota			50	-
Wisconsin	.2	979-040	100	Stand Great	Wisconsin		gardi queg	100	gredit gards
Michigan	.6	940 646	<b></b>		Michigan	(m) (17)	eq. 640	100	
Jack pine	1.0	16	950	~~	Elm	3.0	-	450	(000) (000)
Minnesota	1.0	15	700		Minnesota		Greek Greek	50	gan 400
Wisconsin		1	150	-	Wisconsin	3.0	G140 G140	200	
Michigan			100		Michigan	<b>(40)</b>		200	(m) (m)
Spruce	.1	(11)		1	Oak	1.0	-	13,400	them engs
Minnesota					Minnesota	<b>600</b> (p.e)		3,000	
Wisconsin	mps 4040	\$100 mag			Wisconsin	1.0	(Contract)	7,100	
Michigan	.1		(min) quality	1	Michigan	top ===		3,300	
Balsam		***	100	Gard seas	Aspen			1,400	-
Minnesota	~** ma	-	100		Minnesota	-	mm #60	700	
Wisconsin					Wisconsin			400 -	
Michigan					Michigan			300	
Tamarack			700	1	Ash	.1			
Minnesota			300	1	Minnesota				-7
Wisconsin			250		Wisconsin	•1			
Michigan	-	e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-e-	150		Michigan	<b>49</b> (44)		( 00	
Cedar	and 480	104	7,200	15	Miscellaneous	.1	cas est)	600	-7
Minnesota	(MP) graps	55	1,500	1	Minnesota		010, 04h	100	
Wisconsin	-	9	1,200		Wisconsin	.1		300	
Michigan	ant an	.40	4,500	14	Michigan			200	and the
Hemlock	60,00		150	2	Hdwd. total	4.4	497 cus	16,400	-
Minnesota	**************************************	catego Grado		gauge trails	Minnesota	1. 1.	death GTTD	4,000	
Wisconsin			100		Wisconsin	4.4	<b>(MA)</b> (MA)	8,200	gad gain
Michigan	profits death	<del>(100</del> 0-11	50	2	Michigan		7.00	4,200	7.0
Sftwd. total	2.9	120	9,500	19	All species	7.3	120	26,000	19
Minnesota	2.0	70	3,000	2	Minnesota	2.0	70	7,000	2
Wisconsin	.2	10	1,800		Wisconsin	4.6	10	10,000	7 77
Michigan	• 7	40	4,800	17	Michigan	• 7	40	9,000	17

Table 20.-- Production of mine timbers and other mine products in the Lake States - 1950

Species and and origin	Total:	Mine imbers	Mine agging	Other 1/	Species and origin	:Total:	Mine	Mine lagging	Other 1/
	Thou	isand cu	bic fee	t		Th	ousand	cubic fe	et
White pine	20	15		5	Maple	1,490	1,130	-	360
Minnesota	15	15	000 gags		Minnesota	25	25	*****	
Wisconsin	quite even		(4)	Comp. Street	Wisconsin	75	55		20
Michigan	5	-	6-10-cm)	5	Michigan	1,390	1,050		340
Red pine	75	70		5	Birch	460	390	and 1440	70
Minnesota	75	70		5	Minnesota	5	5		
Wisconsin			(mm) (MM)	- Officers	Wisconsin	45	30	g=0 q00	15
Michigan		mana (Street)		quint quality	Michigan	410	355	04440	55
Jack pine	1,090	790	170	130	Elm	115	105		10
Minnesota	1,090	790	170	130	Minnesota	35	35		
Wisconsin					Wisconin	10	10		
Michigan	670 min	-	COMP comp	*****	Michigan	70	60		10
Spruce	5	(m) c)	group about	5	Beech	85	80	****	5
Minnesota		-	Q0 Q0	Grade Street	Minnesota	949 649			
Wisconsin		-			Wisconsin	gaple delig	(mail: 6800		
Michigan	5			5	Michigan	85	80		5
Tamarack	2,070	360	230	1,480	Oak	15	15		
Minnesota	1,005	305	-	700	Minnesota	0000 (ma)		-	CARD 0489
Wisconsin	145	10	5	130	Wisconsin	5	5		
Michigan	920	45	225	650	Michigan	10	10		
Cedar	1,785		1,770	15	Ash	65	65		
Minnesota	310		310		Minnesota	65	65		
Wisconsin	90		90		Wisconsin	-			
Michigan	1,385		1,370	15	Michigan			(m) etc.	
Hemlock	340	305	5	30	Hdwd. total	2,230	1,785		445
Minnesota	***	900 PM	0-0 040	-	Minnesota	130	130		
Wisconsin	10	5		5	Wisconsin		100		35
Michigan	330	300	5	25	Michigan	1,965	1,555		410
Sf twd. total	5,385	1,540	2,175	1,670	All species		3,325		2,115
Minnesota.	- 1105	1,180	480	835	Minnesota		1,310	480	835
Wisconsin		15	95	135	Wisconsin	380	115	95	170
Ves alas mars	2 6/15	3115	1 600	700	Michigan	4,610	1,900	1,600	
1/ Cri	bbing, I	oles, t	restle	logs, h	newed shaft t	imbers,	smelte	r brands	, etc.

Table 21. -- Production of cooperage logs and bolts in the Lake States - 1950

Species	Total	: Minnesota	olume cut by : Wisconsin	es Michigan
		M bd.ft. Int'l 1	/4-inch rule	
Maple Basswood Elm Oak Aspen Cottonwood Ash	284 136 219 1,622 78 207	284 89 219 385 78 207	1,237	
All species	2,546	1,262	1,284	

Table 22. -- Production of miscellaneous products in the Lake States - 1950

	1	mata7		Volume cut by	states
Species		Total	Minnesota	: Wisconsin	: Michigan
			Thousand	cubic feet	
White pine Red pine Jack pine Spruce Balsam Tamarack Cedar Hemlock		150 90 190 50 130 50 620 40	50 40 80 20 50 20 80	50 20 40 10 20 10 140 20	50 30 70 20 60 20 400 20
Softwood total		1,320	340	310	670
Maple Birch Basswood Elm Beech Oak Aspen Ash Other		630 210 150 70 600 90 1,360 10 70	170 70 - 10 860	80 30 60 10 340 20	550 10 20 70 600 70 160 10 50
Hardwood total		3,190	1,110	540	1,540
ALL SPECIES		4,510	1,450	850	2,210

<sup>1/</sup> Rough forest products used for manufacture of matches, clothespins, bowling pins, handles, woodenware, rustic furniture and fences, toys, shingles, lath, log cabin material, etc.